

WHAT IS CLAIMED IS:

1. An apparatus for establishing a data transfer mode through the identification of the insertion of a card, the apparatus comprising:

a card insertion identifier that identifies whether the card is inserted;

a card assignment information receiver that if the card insertion identifier identifies that the card is inserted, receives predetermined card assignment information from a card driver; and

a data transfer mode establisher that establishes the data transfer mode for the card based on the card assignment information.

2. The apparatus of claim 1, further comprising a data transfer mode releaser that if the card insertion identifier identifies in the data transfer mode that the card is no longer inserted, informs the card driver that the card is no longer inserted to release the data transfer mode.

3. The apparatus of claim 1, wherein if the card is inserted into a predetermined socket, the card insertion identifier receives a predetermined insertion signal from a port of the socket coupled to a port of the card to identify that the card is inserted.

4. The apparatus of claim 1, wherein the card is a multimedia card.

5. The apparatus of claim 4, wherein the card assignment information comprises an assignment operation voltage that the card driver assigns as an operation voltage of the card in consideration of power distribution to an entire system including the apparatus and an assignment card address that the card driver arbitrarily assigns as a relative address of the card.

6. The apparatus of claim 1, wherein the card is a secure digital card.

7. The apparatus of claim 6, wherein the card assignment information comprises an assignment operation voltage that the card driver assigns as an operation voltage of the card in consideration of power distribution to an entire system including the apparatus and an assignment card address that the card arbitrarily assigns as a relative address of the card.

8. An apparatus for establishing a data transfer mode through the identification of the insertion of a multimedia card, the apparatus comprising;

an assignment operation voltage propriety requester that requests the multimedia card to indicate the propriety of an assignment operation voltage

that a card driver assigns as an operation voltage of the multimedia card in consideration of power distribution to an entire system including the apparatus;

an assignment card address transmitter that receives a response to the request of the assignment operation voltage propriety requester and if the response indicates the propriety of the assignment operation voltage, transmits to the multimedia card an assignment card address that the card driver arbitrarily assigns as a relative address of the multimedia card; and

a data transfer mode establisher that receives predetermined card identification information set by the multimedia card and transmits the card identification information to the card driver to establish the data transfer mode in which data is read or written according to a command of the card driver.

9. The apparatus of claim 8, wherein if the multimedia card operates within the range of the assignment operation voltage, the card identification information comprises the assignment operation voltage set as an operation voltage of the multimedia card and the assignment card address set as a relative address of the multimedia card.

10. The apparatus of claim 9, wherein the card identification information further comprises a state for informing that the multimedia card is identified.

11. The apparatus of claim 8, wherein if the response to the request of the assignment operation voltage propriety requester indicates the propriety of the assignment operation voltage, the assignment card address transmitter requests the multimedia card for card identification information, receives a response to the request for the card identification information, and transmits the assignment card address to the multimedia card.

12. The apparatus of claim 11, wherein the card identification information comprises the name of a maker of the multimedia card and an identification number of the multimedia card.

13. An apparatus for establishing a data transfer mode through the identification of the insertion of a secure digital card, the apparatus comprising:

an assignment operation voltage propriety requester that requests the secure digital card to indicate the propriety of an assignment operation voltage that a card driver assigns as an operation voltage of the secure digital card in consideration of power distribution to the whole of the apparatus;

an assignment card address receiver that receives a response to the request of the assignment operation voltage propriety requester and if the response indicates the propriety of the assignment operation voltage, receives an

assignment card address that the secure digital card arbitrarily assigns as a relative address of the secure digital card; and

a data transfer mode establisher that receives predetermined card identification information set by the secure digital card and transmits the card identification information to the card driver to establish the data transfer mode in which data is read or written according to a command of the card driver.

14. The apparatus of claim 13, wherein if the secure digital card operates within the range of the assignment operation voltage, the card identification information comprises the assignment operation voltage set as an operation voltage of the secure digital card and the assignment card address set as a relative address of the secure digital card.

15. The apparatus of claim 14, wherein the card identification information further comprises a state for informing that the secure digital card is identified.

16. The apparatus of claim 13, wherein if the response to the request of the assignment operation voltage propriety requester indicates the propriety of the assignment operation voltage, the assignment card address receiver requests the card for card identification information and receives a response to

the request for the card identification information and the assignment card address that the secure digital card arbitrarily assigns as the relative address of the secure digital card.

17. The apparatus of claim 16, wherein the card identification information comprises the name of a maker of the secure digital card and an identification number of the secure digital card.

18. A method of establishing a data transfer mode through the identification of the insertion of a card, the method comprising:

- (a) identifying whether a card is inserted;
- (b) if the insertion of the card is identified, receiving predetermined card assignment information from a card driver; and
- (c) establishing the data transfer mode for the card based on the card assignment information.

19. The method of claim 18, further comprising if the card is no longer inserted, informing the card driver that the card is no longer inserted to release the data transfer mode.

20. The method of claim 18, wherein in step (a), if the card is inserted into a predetermined socket, a predetermined insertion signal is received from a port of the socket coupled to a port of the card to identify that the card is inserted.

21. The method of claim 18, wherein the card is a multimedia card.

22. The method of claim 21, wherein the card assignment information comprises an assignment operation voltage that the card driver assigns as an operation voltage of the card in consideration of power distribution to an entire system and an assignment card address that the card driver arbitrarily assigns as a relative address of the card.

23. The method of claim 18, wherein the card is a secure digital card.

24. The method of claim 23, wherein the card assignment information comprises an assignment operation voltage that the card driver assigns as an operation voltage of the card in consideration of power distribution to an entire system and an assignment card address that the card arbitrarily assigns as a relative address of the card.

25. A method of establishing a data transfer mode through the identification of the insertion of a multimedia card, the method comprising:

(a) requesting the multimedia card to indicate the propriety of an assignment operation voltage that a card driver assigns as an operation voltage of the multimedia card in consideration of power distribution to an entire system;

(b) receiving a response to the request and if the response indicates the propriety of the assignment operation voltage, transmitting to the multimedia card an assignment card address that the card driver arbitrarily assigns as a relative address of the multimedia card; and

(c) receiving predetermined card identification information set by the multimedia card and transmitting the card identification information to the card driver to establish the data transfer mode in which data is read or written according to a command of the card driver.

26. The method of claim 25, wherein if the multimedia card operates within the range of the assignment operation voltage, the card identification information comprises the assignment operation voltage set as an operation voltage of the multimedia card and the assignment card address set as a relative address of the multimedia card.



27. The method of claim 24, wherein the card identification information further comprises a state for informing that the multimedia card is identified.

28. The method of claim 23, wherein in step (b), if a response to the request indicates the propriety of the assignment operation voltage, the multimedia card is requested for card identification information, a response to the request for the card identification information is received, and the assignment card address is transmitted to the multimedia card.

29. The method of claim 26, wherein the card identification information comprises the name of a maker of the multimedia card and an identification number of the multimedia card.

30. A method of establishing a data transfer mode through the identification of the insertion of a secure digital card, the method comprising:

(a) requesting the secure digital card to indicate the propriety of an assignment operation voltage that a card driver assigns as an operation of the secure digital card in consideration of power distribution to an entire system;

(b) receiving a response to the request and if the response indicates the propriety of the assignment operation voltage, receiving an assignment card

address that the secure digital card arbitrarily assigns as a relative address of the secure digital card; and

(c) receiving predetermined card identification information set by the secure digital card and transmitting the card identification information to the card driver to establish the data transfer mode in which data is read or written according to a command of the card driver.

31. The method of claim 30, wherein if the secure digital card operates within the range of the assignment operation voltage, the card identification information comprises the assignment operation voltage set as an operation voltage of the secure digital card and the assignment card address set as a relative address of the secure digital card.

32. The method of claim 31, wherein the card identification information further comprises a state for informing that the secure digital card is identified.

33. The method of claim 30, wherein in step (b), if the response to the request indicates the propriety of the assignment operation voltage, card identification information is requested, and a response to the request for the card identification information and the assignment card address that the secure

digital card arbitrarily assigns as a relative address of the secure digital card are received.

34. The method of claim 33, wherein the card identification information comprises the name of a maker of the secure digital card and an identification number of the secure digital card.

35. A register of a controller for controlling a card, which establishes a data transfer mode through the identification of the insertion of a card, the register comprising:

- an assignment operation voltage storage unit that stores an assignment operation voltage;

- an assignment card address storage unit that stores an assignment card address;

- a set operation voltage storage unit that stores a set operation voltage;

and

- a set card address storage unit that stores a set card address.

36. The register of claim 35, wherein the assignment operation voltage is a voltage that a card driver assigns as an operation voltage of the card in consideration of power distribution to an entire system.

37. The register of claim 35, wherein if the card is a multimedia card, the assignment card address is an address that the card driver arbitrarily assigns as a relative address of the card, and if the card is a secure digital card, the assignment card address is an address that the card arbitrarily assigns as a relative address of the card.

38. The register of claim 35, wherein if the card operates within the range of the assignment operation voltage, the set operation voltage is the assignment operation voltage set as an operation voltage of the card.

39. The register of claim 35, wherein the set card address is the assignment card address set as a relative address of the card.

40. The register of claim 35, further comprising a card identification status storage unit that stores a state for informing that the card is identified.

41. A computer-readable recording medium on which a program for executing the method of any one of claims 18 through 34 in a computer is written.